POSTER SESSION

1040 Outcomes Research With Policy Implications

Sunday, March 07, 2004, Noon-2:00 p.m.
Morial Convention Center, Hall G
Presentation Hour: 1:00 p.m.-2:00 p.m.

1040-67 The Impact of the National Privacy Act on the Effectiveness and Costs of a Six-Month Follow-Up Study of Acute Coronary Syndromes

David Armstrong, Eva M. Kline-Rogers, Jianming Fang, Anchal Sud, Krishna Rangarjan, Shaneen U. Doctor, Bruce C. Rogers, Debra Smith, Kim A. Eagle, University of Michigan, Ann Arbor, MI

Objective: To determine the potential impact of the new privacy act (HIPAA) on post discharge outcomes (effectiveness and costs) in patients with Acute Coronary Syndromes (ACS).
Methods: We studied follow-up(F/U) success at 6 months, and costs of F/U in two cohorts of consecutive discharges with ACS between 5-1-99 and 4-24-03 at the University of Michigan Health System. The first interval represented usual outcomes assessment, with 6 month phone interviews which first sought verbal consent from patients, then proceeded with a brief questionnaire. In the second interval, using methodology recommended by our IRB as being HIPAA compliant, we first mailed a consent to each discharged patient, asking permission to call the patient in order to add their clinical data to a database and obtain F/U information. We tracked overall success of consent for 6 month F/U, incremental costs of securing F/U, including estimated materials, mailing, phone, personnel costs, and assessed for differences in types of patients successfully consented.
Results: Overall consent for F/U dropped from 96.5 % to 35.9% after initiation of HIPAA compliant procedures, p<.0001. Per patient costs increased by an estimated $17.00. More than one half of patients did not reply to the consent letter. After receiving the letter, 2.6% of patients refused to be contacted and 1.5% of letters were "returned to sender". Patients successfully consented for F/U after HIPAA were more likely to be married (p<.0001), were older (p=.001) and have a history of hypertension (p=.004) or hyperlipidemia (p=.04) versus those that did not respond, refused, or never received the letter. Widowers were less likely to respond (p<.0001). There were no differences with regard to gender, or other comorbid conditions between those that did or did not consent.
Conclusions: Adjusting outcomes research methodology to accomodate new regulations associated with HIPAA resulted in substantial reduction in our ability to successfully track care patterns and outcomes in pts discharged after admission for ACS, and was associated with greater costs. This pilot study suggests that HIPAA may significantly alter the way we study long term patient outcomes in cardiology.

1040-68 Excessive Inducement Into Clinical Trials Using Monetary Incentives: Truth or Fallacy?

Joel B. Braunstein, Steven P. Schulman, Parthiv Mahadevia, Neil R. Powe, Johns Hopkins Medical Institutions, Baltimore, MD

Background: While use of monetary incentives to enhance recruitment into clinical trials is controversial, scant empiric data exist on how monetary incentives actually influence patients' enrollment decisions. Thus, we asked whether and to what degree monetary incentives influence patients' willingness to participate (WTP) in a cardiovascular clinical trial.
Methods: From 13 Maryland-based cardiology and medicine clinics, we approached 1440 randomly selected patients to participate in a cross-sectional, self-administered survey, which contained a 1-page description of a cardiovascular drug trial with random assignment of a different level of monetary incentive. Monetary incentive for joining randomly varied between $25, $250, $500, $750, and $1250. Using 5-point Likert response scaling, patients reported their WTP ([+] response = very likely/ likely), and their rated importance of joining a trial for altruistic reasons and for receiving monetary incentive.
Results: 789 (70%) of 1132 eligible individuals responded. Magnitude of monetary incentive had no impact on WTP (WTP=32%, 36%, 34%, 33%, 38% for $25, $250, $500, $750 and $1250 incentive, respectively, p=0.80), even after stratifying individuals by socioeconomic status, age, gender, and race. Individuals who considered monetary incentive important to join a trial, however, expressed greater WTP (OR=1.24; 95% CI 1.11-1.38, p<0.001 per ordered increase in importance), as did individuals who considered it important to join a trial to help other people (2.32; 1.92-2.81, p<0.001 per ordered increase in importance). Lower income and education levels were both strongly and independently associated (1.33; 1.08-1.63, p<0.01 and 1.65; 1.26-2.16, p<0.001 per ordered decrease in income and education, respectively) with reports of monetary incentive being either extremely or very important to joining a trial. All subgroups felt similarly about the importance of joining a trial to help other people.
Conclusions: Monetary incentives did not adversely influence WTP in this hypothetical experiment, although, persons with lower income and education were more likely to believe that monetary incentives are important for joining trials.

1040-69 The Effect of State Mandated Continuing Medical Education on the Use of Proven Therapies in Patients With an Acute Myocardial Infarction

Manesh R. Patel, Trip J. Meine, Jasmina Radeva, Lesley Curtis, Sunil V. Rao, Kevin J. Schulman, James Jollis, Duke University Medical Center, Durham, NC

Background: Many states mandate continuing medical education (CME) credits for practicing physicians. We examined whether state CME requirements affected the use of evidence-based therapies and outcomes in patients with acute myocardial infarction (AMI).
Methods: We analyzed 134,609 patients in a Medicare database admitted with the diagnosis of AMI to US hospitals from 1994-1996 according to CME requirements in the state of physician practice. We used a hierarchical multivariable model controlling for state, hospital, physician, and patient characteristics to determine the association between state CME requirements and the use of evidence-based therapies.
Results: States with and without CME requirements had similar rates of aspirin use at admission and discharge and beta blocker use at discharge. The rate of reperfusion therapy at admission was significantly higher in states requiring CME.(Table) After adjustment, patients admitted in states requiring CME were significantly more likely to receive reperfusion therapy, mainly due to thrombolytic therapy (RR 1.08 p=0.023). There was no association between CME requirements and 30-day or 1-year mortality.
Conclusion: State-mandated CME training had little association with AMI care or outcome, other than an increased use of thrombolytic therapy. Further study is needed to determine whether the association with thrombolysis was related to the provision of CME activities in conjunction with pharmaceutical marketing efforts.

Use of Evidence-Based Therapy in AMI

	States with no CME-requirement N=63,299	CME-requiring States N=71,310	P-Value
Aspirin:			
During	79.4%	79.9%	0.088
at discharge	72.5%	72.5%	0.947
Beta-Blocker use			
During	63.3%	61.6%	0.045
Discharge	55.3%	53.1%	0.068
Reperfusion at Admission			
PCI	18.6%	20.9%	0.0007
Thrombolytic	42.6%	47.2%	<0.0001
Mortality			
30-day	20.5%	20.7%	0.467
1-year	35.2%	35.0	0.564

1040-70 Do International Medical Graduates Provide Inferior Quality Care in the Setting of Acute Myocardial Infarction?

Dennis T. Ko, Peter C. Austin, Benjamin T.B. Chan, Jack V. Tu, Sunnybrook and Women's College Health Sciences Center, Toronto, ON, Canada, Institute for Clinical Evaluative Sciences, Toronto, ON, Canada

Background
International medical graduates (IMGs) represent a substantial proportion of the physician workforce and are important in the care of AMI patients. Although not firmly established, many believe that IMGs provide inferior medical care compared to locally trained physicians.
Methods
We compared risk-adjusted mortality rates, adjusted use of secondary prevention medications and cardiac procedures of patients treated by IMGs and Canadian Medical graduates (CMGs) using linked administrative databases for all patients admitted with AMI between 1992 and 1999 in Ontario, Canada.
Results
Of the 127,275 AMI patients, 22% were treated by IMGs, and 78% by CMGs. IMGs were older (51 vs 40 yrs) and more likely to be male (90% vs 72%) compared to CMGs. The risk-adjusted mortality rates of IMG and CMG-treated patients were similar both at 30-day (13.3% vs 13.4%, p = 0.57) and at 1-year (21.8% vs 21.9%, p = 0.63). Further, patients treated by both groups had similar adjusted utilization of secondary prevention medications and cardiac procedures.
Conclusions
Despite concerns about a lower level of care provided by IMGs, the utilization of secondary prevention medical therapy, cardiac procedures, and mortality of AMI patients was similar after adjustment. This information places the concerns about IMGs into perspective and supports the ability of well-selected IMGs in caring for AMI patients.

	IMGs	CMGs	Adjusted Odds Ratio IMGs/CMGs (95% CI)
Medications within 90 days of hospital discharge, (%)			
Aspirin	61.4	60.4	1.00 (0.94, 1.06)
Beta Blockers	53.8	56.4	1.01 (0.94, 1.07)
ACE inhibitors	51.3	52.0	1.04 (0.98, 1.11)
Statins	19.1	19.8	1.09 (1.01, 1.19)
Cardiac Procedures within 1 year of hospital discharge, (%)			
Cardiac Catheterizations	31.0	32.6	1.06 (1.01, 1.18)
PCI	9.1	9.9	1.06 (1.00, 1.13)
CABG	9.6	10.3	1.00 (0.95, 1.06)

1040-71 Interhospital Transfers Are Costly, Cause Delays and Do Not Address the Imbalance of Access to Revascularization: The Case for More Angiographic Facilities? Results From the Global Registry of Acute Coronary Events

Ameet Bakhai, Omar H. Dabbous, David J. Cohen, Marcus D. Flather, Dan Greenberg, Frederick A. Anderson, Jr., Enrique P. Gurfinkel, Kami White, Keith A.A Fox, The GRACE Investigators, Royal Brompton Hospital, London, United Kingdom

Background Hospital revascularization rates for patients (pts) admitted with acute coronary syndromes (ACS) vary depending on proximity to a hospital capable of coronary revascularization. We examined whether interhospital transfers balance out these variations and represent the most effective use of resources.
Methods We compared clinical outcomes, resource use and costs for ACS pts enrolled in GRACE to Dec '02, presenting directly to centers with (Rv+) or without (Rv-) 24h access to revasc (PCI/CABG) facilities and for pts transferred (Tr) to a Rv+ unit for acute care. Costs were estimated ($/€) using key drivers: length of stay, ward type and use of PCI, stent or CABG.
Results 25,344 pts presented initially to Rv+ (74%) and Rv- (26%). Almost 1 in 5 pts needed acute Tr. Overall hospital mortality rates were similar (5.4%) for Rv+ and Rv- pts. Mean cost of all ACS pts was $6001/€5253. Almost 1 in 3 Tr pts did not proceed to revasc. In the UK alone, the estimated cost of care of Tr pts annually would be $50(€42) million.
Conclusions Tr rates would have to increase from 20% to 60% to balance the substantial differences in revasc rates between centers. Access to angiography before Tr would realise substantial potential cost savings by avoiding Tr for pts unlikely to proceed to revasc. Further economic data is urgently needed to determine the most optimal use of resources. Increased angiographic facilities may also allow more equitable access to early revasc for all ACS pts with suitable anatomy.

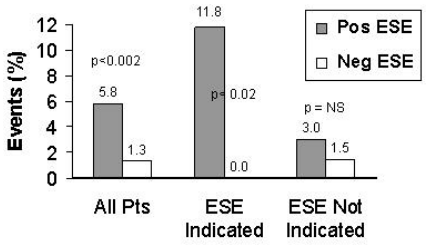
Category	Admitted to Rev+ (n=18,817)	Admitted to Rev- (n=6527)	Transferred to Rev+ (n=3093)
USA pts in category (%)	22.1	20.4	41.3
Mean age (years)	65.5	66.7	62.6
+ve cardiac markers (init/pk; %)	63.0	57.7	76.5
Pts receiving PCI/CABG (%)	35.3/6.2	*2.6/0.5	50.5/10.9
Discharge-transfer to acute facility (%)	4.3	19.5	6.0
Total length of stay, days, mean (med) [95%CI]	8.9 (7.0) [8.8, 9.0]	8.5 (7.0) [8.3, 8.7]	9.8 (7.0) [9.5, 10.0]
Total index hospital costs, mean (med)[95%CI]			
Europe	5595 (4671)[5557, 5633]	4267 (3752)[4224, 4310]	6732 (5428)[6628, 6836]
US	6712 (5171) [6665, 6759]	3953 (3299) [3910, 3996]	8572 (7878) [8450, 8694]

Note all comparisons (1 vs 2) & (1 vs 3) P<0.001 except Wilcoxon for length of stay
*Some Rev- centers were linked to Rev+ centers as one combined trust

1040-72 Are American College of Cardiology/American Heart Association Preoperative Practice Guidelines for Stress Testing Followed?

Howard Weinstein, Barbara Spaltro, Richard M. Steingart, Memorial Sloan-Kettering Cancer Center, New York, NY

Background: ACC/AHA preoperative practice guidelines for stress testing are widely promulgated but the extent to which they are followed and applicable in specialized populations is unknown.
Methods: Accordingly, we retrospectively applied the ACC/AHA preoperative guidelines to a group of 776 consecutive patients (pts) undergoing abdominal, genitourinary, head and neck or thoracic cancer surgery referred for preoperative exercise stress echocardiography (ESE).
Results: Eighty-four percent of stress tests were not indicated by existing ACC/AHA guidelines. The rate of cardiac events (AMI, CHF, UA and death) in these pts was low (1.8%) and ESE provided no further risk stratification (Fig). In pts where stress testing was indicated by the guidelines, the event rate was 7%. ESE provided further risk stratification in this group (Fig).
Conclusions: 1) Compliance with preoperative stress testing guidelines in this population is poor, resulting in extensive testing that provides no further risk stratification. 2) Where stress testing is indicated by guidelines, ESE provides important prognostic information.



1040-73 Financial Impact of Drug-Eluting Stents: The US Academic Experience

David S. Marks, Thomas A. Ratko, Karl A. Matuszewski, Michael J. Oinonen, Joseph P. Cummings, Medical College of Wisconsin, Milwaukee, WI, University HealthSystem Consortium, Oak Brook, IL

Background: Drug-eluting stents (DES) have recently been released in the United States in limited quantity. These stents have changed the financial impact of coronary intervention. The impact of DES in the initial US rollout has not been described.
Methods: The University HealthSystem Consortium (UHC) is an alliance of 87 academic health centers in the US. The UHC clinical database was queried for DES implantation compared to bare stent implantation for the second quarter (Q2) of 2003. This database contains a comprehensive collection of procedure-specific data derived from discharge abstract summaries and UB-92 data for all inpatients at participating centers.
Results: 11,866 procedures involving coronary stents from 74 institutions performed in Q2 were analyzed, including 3,404 procedures using DES. Penetration of DES increased monthly and reached 44% by June, 2003. Mean length of stay was lower for DES procedures compared to bare stent procedures both with myocardial infarction (MI) (3.51±2.84 vs. 3.98±3.47 days, p<0.01) and without MI (1.99±2.29 vs.2.39±2.98, p<0.01). Overall procedural costs increased for DES both with myocardial infarction ($18,150±9,900 vs. $17,225±10,500) and without ($13,400±8,200 vs. $14,953±8,200). No difference existed in payer status or clinical demographics between bare stents and DES.
Conclusion: The introduction of DES has increased costs to health care centers and the technology has had rapid adoption despite limited supply. Yet, retrospective database analysis suggests the cost of caring for patients with DES has risen by a quantity less than the incremental price of a single stent; this may be explained, in part, by a decreased LOS. No patient clinical or demographic criteria attesting to this savings has been ascertained by a comprehensive clinical database. Further investigation is required to understand the patient and physician characteristics that have determined DES utilization and non-stent cost savings.

1040-74 Drug-Eluting Stent Use May Negatively Impact the Economic Health of a Hospital: A Single-Center Case Study

Richard E. Sinaiko, Mikele M. Bunce, Neal Eigler, Saibal Kar, Sepideh S. Farivar, Emma C. Wollschlager, Sinaiko Healthcare Consulting, Inc., Los Angeles, CA, Cedars-Sinai Health System, Los Angeles, CA

Background: Drug eluting stents (DES) are becoming the "gold standard" for treatment of coronary artery disease due to decreased rates of restenosis. The economic implications of this costly technology may be greater than expected. This study was conducted to forecast the financial impact of DES use on a major teaching hospital.
Methods: A case study hospital's caseload, cost, and reimbursement data were used to perform a sensitivity analysis using a financial impact model developed by Cordis, which was run using two different sets of assumptions: (1) Cordis' assumptions, and (2) case study hospital's assumptions. The case study hospital's assumptions were obtained by surveying a group of the hospital's interventional cardiologists.
Results: The results of this study (Figure 1) show that while Cordis' assumptions show less of an impact, under both Cordis' and the case study's assumptions, the case study hospital will undergo a significant reduction in cardiovascular service line contribution margin as a result of drug eluting stent use.
Conclusions: Hospitals have little control over the financial impact of DES due to demand, liability, and guideline enforcement issues. To relieve the burden hospitals face and to ensure the healthcare community has appropriate incentives to practice in a cost-effective and patient centered way, Medicare should increase its reimbursement rates for